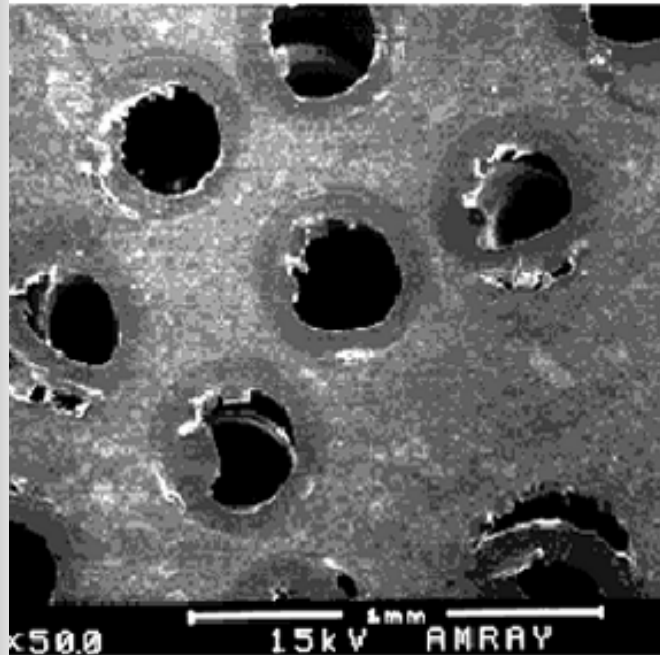
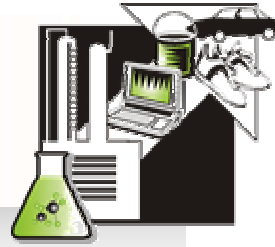


# Membrane Module Tubesheet



- Nanoparticles in epoxy resins used to make improved tubesheets that hold large fiber bundles
- Extends application of hollow-fiber membrane separations to harsh environments (e.g., distillation)
- Improved tubesheets capable of operating in high-temperature (140°C) and chemically aggressive environments

*TDA Research Inc.  
Air Products and Chemicals Inc.*

\*SBIR Phase II winner